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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,382	09/26/2000	Kevin Lynaugh	80113-0070	3376

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EXAMINER
WEST, JEFFREY R

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 04/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/669,382	LYNAUGH ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6 and 7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings in Figures 5 and 6 are objected to because they contain language not described in the specification. In Figure 5, the z-axis of the calibration table is labeled "cel_sum(bite)". This label is not described in the specification and therefore the information provided in the drawing is unclear. Similarly, Figure 6 labels the z-axis "Summ_n(bits)", also not described in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because it contains a second abstract, on an incorrectly labeled page, describing the unrelated method of spreading a rectangular sheet of fabric.

3. Claim 17 is objected to because of incorrect dependency. It is suggested that claim 17 be dependent on claim 15 rather than on claim 16.

4. On page 9, lines 15-16, "the inventive method The inventive system therefore can compensate for gain non-linearity," should be ---the inventive method can compensate for gain non-linearity,---.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1, 15, and 22 lack clarity because the feature "look-up table values are used to compute input power to the receiver" is not sufficiently described in the specification to enable one with ordinary skill in the art to use the invention. The specification does list several equations related to the input power of a modem, however, the method of using these equations is unclear. First, equations (2) and (4) contain the variable K_{VVA}, which is assumed to be a constant of the voltage variable amplifier, but there is no description of the use or contribution of the constant. Similarly, equations (3) and (4) contain the variable $K_{\Sigma\Delta}$ for which there is no description of value, use, or contribution. Further, on page 8, lines 2-5, the applicant describes measuring the input power to the modem's receiver by using the AGC integrator accumulator value Ψ_{acc} with equation (4). However, to obtain the AGC integrator accumulator value Ψ_{acc} from the look-up table, shown in Figures 5

and 6, the input power amplitude must already be known. This contradiction makes the method of using the invention unclear.

The relationship between the AGC integrator accumulated value, the input power, and the input frequency is also insufficiently described in the specification. Lines 2-4, on page 5, describe the accumulated value of the AGC's integrator register as being proportional to the voltage applied to the voltage variable gain device, but does not describe any further relationships. Because the look-up tables, in Figures 5 and 6, plot the AGC integrator accumulator value vs. a known frequency and power, in order to estimate the accumulator value at a different frequency and power, some relationship between the three values must be established. Since this relationship has not been established, it is unclear how one with ordinary skill in the art would generate the look-up table as claimed.

Claims 2-14, 16-21, 23, and 24 are rejected under 35 U.S.C. 112, first paragraph, because they incorporate, and fail to correct, the lack of clarity present in parent claims 1, 15, and 22.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-24 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility.

Claims 1, 15, and 22 describe a method, and apparatus, for estimating the input power in a cable modem device comprising the steps of inputting a plurality of calibration signals, recording a calibration point corresponding to each calibration signal, connecting the calibration points, generating a look-up table using the connected calibration points, and using the look-up table values to compute the input power to the device. Based on the drawings and disclosure, however, it is unclear how one with ordinary skill in the art would compute the input power from these look-up table values.

First, the equations used to calculate the input power of the device are unclear. Equations (2) and (4) contain the variable K_{VVA}, which is assumed to be a constant of the voltage variable amplifier, but there is no description of the use or contribution of the constant. Similarly, equations (3) and (4) contain the variable $K_{\Sigma\Delta}$ for which there is no description of value, use, or contribution.

Second, the manner in which one uses the look-up tables is also unclear. On page 6, lines 10-12, the specification describes creating the look-up table by recording the input power (Pin), input frequency (Fin), and the AGC integrator accumulated value for each sample. These frequency and power amplitude measurements are shown on the x-axis and y-axis of the tables, respectively, and it is assumed that the z-axis corresponds to the AGC integrator accumulator value Ψ_{acc}. Equation (4) describes the method of calculating the input power using several unknown constants, the output power of the receiver, and the AGC integrator accumulated value Ψ_{acc}. However, according to the specification on page 8, lines

15-18, "when the user wishes to measure the input RF power to the receiver, the AGC integrator accumulator value Ψ_{acc} corresponding to the tuner's frequency and amplitude [power] is read from the look-up table, such as the one shown in Figure 5, and is used to calculate an estimated input RF power value as explained above" (i.e. using equation (4)). This method shows that to calculate the power using equation 4, the AGC integrator accumulator value Ψ_{acc} must be known, but to calculate the AGC integrator accumulator value from the look-up table, the input power must already be known. This contradiction renders the invention inoperative.

Claims 2-14, 16-21, 23, and 24 are rejected under 35 U.S.C. 101 because they incorporate, and fail to correct, the lack of utility present in parent claims 1, 15, and 22.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent No. 5,452,473 to Weiland et al. teaches transmit power correction and limitation in a radiotelephone system wherein a power detector performs an integration to determine an automatic gain control setpoint. This setpoint and a frequency index are used to linearize the results to reduce errors inputted into a look-up table.

U.S. Patent No. 6,118,811 to Narumi et al. teaches self-calibrating, self-correcting transceivers and methods for receiving calibration signals with known levels and frequencies.

U.S. Patent No. 5,265,151 to Goldstein teaches a method of improving modem performance through control of its transmitted power by indexing calibration power levels in a look-up table.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (703)308-1309. The examiner can normally be reached on Monday thru Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703)308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

jrw
April 4, 2002

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800